

ABSTRACT

Methods and apparatus for providing an
5 Anti-Flooding Flow-Control (AFFC) mechanism suitable for
use in defending against flooding network Denial-of-
Service (N-DoS) attacks is described. Features of the
AFFC mechanism include (1) traffic baseline generation,
10 (2) dynamic buffer management, (3) packet scheduling, and
(4) optional early traffic regulation. Baseline
statistics on the flow rates for flows of data
corresponding to different classes of packets are
generated. When a router senses congestion, it activates
the AFFC mechanism of the present invention. Traffic
15 flows are classified. Elastic traffic is examined to
determine if it is responsive to flow control signals.
Flows of non-responsive elastic traffic is dropped. The
remaining flows are compared to corresponding class
baseline flow rates. Flows exceeding the baseline flow
20 rates are subject to forced flow rate reductions, e.g.,
dropping of packets.